

ER Site No. 58: Coyote Canyon Blast Area

ADS: 1332

Operable Unit: Foothills Test Area

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Site History

Site 58 was used to conduct more than a hundred explosive field tests. The site is not currently being used for test activities. Tests were conducted at the site from 1950 to late 1960s. More than 17 test locations within Site 58 conducted a very wide variety of tests involving at or above ground explosive detonations, until the non-explosive tests commenced. Tests included:

- Burn test on weapons
- Height of Burst studies
- Blast Force on Structure test
- Studies of the effects of terrain on blast waves
- Explosive related Star Wars tests
- Shrapnel studies
- Electromagnetic studies of weapon detonations
- Detonation effects on glove boxes of the type used to handle nuclear materials.
- Studies of explosive propelled plates impacting weapons simulating reentry into the atmosphere and impact with the ground
- Penetrator impact tests.

The Site 58 fragment boundary is located east of Manzano Base (approximately 1,000 feet at the closest point). Its southern boundary is located 200 feet north of Coyote Springs Road. A north-south oriented road dissects the site and provides site access. The size of Site 58 fragment boundary is approximately 256 acres (a 4,000 foot diameter circle). The size of the test area is approximately 87 acres. The Site 58 test area boundary was selected to encompass all known or suspected firing/test sites. The fragment boundary, a circle with a radius of 2,000 feet from the center of the test area, was selected to encompass the probable dispersal areas for fragments.

The test area of Site 58 is generally flat and gently sloping to the south southwest. It is surrounded on the NE, NW, and S by hills. A medium-sized arroyo runs from the east to the west

along the extreme southern portion of the site. A smaller arroyo runs from the north to the south through the west side of the site. Both arroyos are dry, except during storms.

Constituents of Concern

The material that may have been dispersed/released at some tests within Site 58 include:

- High explosives
- Metals (barium from some high explosives and lead)
- Carbon tetrachloride in cable conduit
- JP-4 from burn tests
- Argon
- Radioactive metal fragments containing depleted uranium and thorium
- Plastic fragment containing cesium
- Small piles of construction debris

Current Hazards

Based on RFI sampling and voluntary corrective measures/voluntary corrective actions that have taken place at the site during 1995-2000, slightly elevated levels of metals, U-235, U-238, Th-232, Cs-137, volatile organic compounds, semi-volatile organic compounds, and explosives are present in both the surface and subsurface soils. Although the levels are relatively low, a risk assessment has not been conducted yet. There may be structures or stored materials that remain at the site that are a potential hazard.

Current Status of Work

[Site 8](#) and portions of Site 58 are in the Manzano Combat Range. Military training is conducted through the range. Most of the unexploded ordnance found on site is from this activity and is not the result of Sandia research.

During the time of the Preliminary Site Inspection (PSI), the KAFB Explosive Ordnance Disposal (EOD) group surveyed the area and collected surficial items containing potential unexploded ordnance/high explosive (UXO/HE). EOD collected two dump truck loads of explosive material for disposal.

Another UXO survey was conducted in 1993. Live ordnance and ordnance debris were found including: ordnance shipping containers, bomb fuses, trip flares, cartridges with primer, 5-lbs of partially burned high explosive (HE), rocket motors, and smoke grenades. These materials were subsequently removed and destroyed.

Radiation surveys of the surface were conducted in 1993/1994/1998. Approximately 74 radioactive metal fragments, later found to contain thorium, were found. One fragment containing cesium was found. Several soil areas with slightly elevated radioactivity were also

found. A Voluntary Corrective Measure (VCM) to remove radioactive fragments and point sources was conducted in 1995. Another VCM was conducted in 1996 to remove buried UXO and soils with slightly elevated radioactivity levels. A VCM was conducted in 1998 to remove asbestos containing debris. Another VCM was conducted in 1998 to remove a large concrete and metal test structure and other concrete debris. A VCM was conducted in 1999 to remove soil and debris containing elevated lead and thorium. Resource Conservation and Recovery Act (RCRA) Facility Investigation sampling has been completed. A Voluntary Corrective Action (VCA) was conducted in October 2000 to remove an underground conduit system that site history indicates may have been periodically flushed with chlorinated organic compounds. The entire system was removed and verification sampling was conducted to confirm that no soils contaminated with organic compounds remain at this former feature.

Future Work Planned

A No Further Action (NFA) proposal for SWMU 58 will be submitted to the NMED.

Waste Volume Estimated/Generated

About 38 55-gallon drums of radioactive waste have been generated at this site along with two 55-gallon drums of batteries and approximately 10 cubic yards of asbestos waste.

Information for ER Site 58 was last updated Jan 29, 2003.